INSTALLATION AND USER'S MANUAL FOR APPCLUSTER

Version 2.0

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AppCluster Installation and User's Manual

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Installation and setup of AppCluster

AppCluster is a new application from Sanbolic that greatly simplifies the management of active-active clusters of SQL Servers, virtual machines or other resources while enhancing the flexibility and availability of those resources. Used in conjunction with Sanbolic's clustered file system, Melio FS, AppCluster provides ease of management, high availability, fast failover and load balancing for multiple physical or virtual servers sharing access to a LUN on SAN storage that contains multiple data stores.

AppCluster uses a .NET based Windows service and works with Windows SQL Management Studio, providing a virtual (transparent) active-active clustering solution. When AppCluster is used to manage SQL Clusters, databases can be moved very quickly between SQL Servers to ensure their availability or to better match database workloads with server capacities.

Supporting both planned and unplanned migrations of database workloads, AppCluster can be installed on any industry standard server running SQL Enterprise that is connected to any industry standard SAN storage.

Minimal System Requirements:

- Pentium IV class processor or equivalent
- 256 MB RAM
- 5 MB free disk space for installation
- Shared SAN storage
- LAN (TCP/IP) connection
- SVGA - min 800x600, 256 colors
- MS SQL Server 2005 or 2008. *Requires the latest patches for MS SQL Server System CLR Types and MS SQL Server Management Objects*
- .NET Framework 2.0 SP2 or higher
- Server Time Synchronization

Supported Operating Systems:

- Windows Server 2003 x64
- Windows Server 2003 R2 x64
- Windows Server 2008 x86, x64
- Windows Server 2008 R2

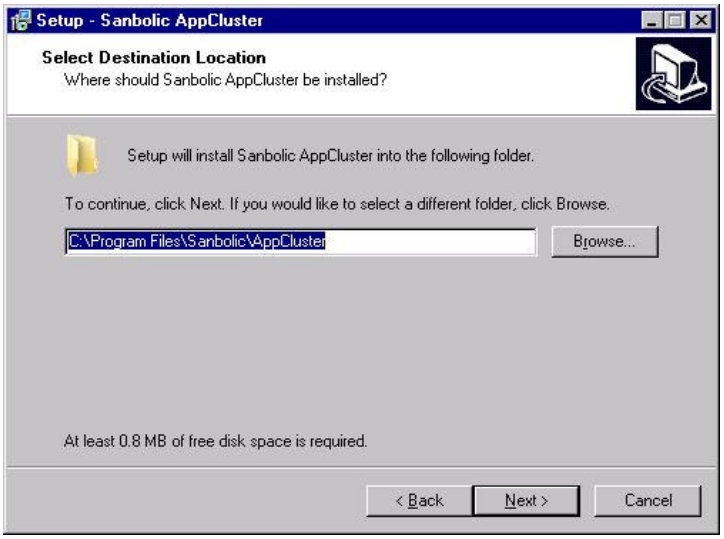
Note: Windows Server 2003 x86 and Windows Server 2003 R2 x86 are not supported.

Installing AppCluster

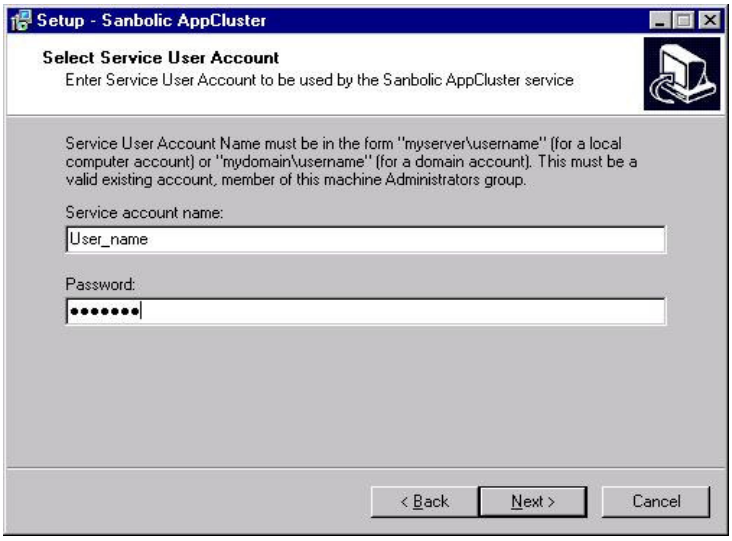
Install and connect your storage hardware using the instructions provided by the respective hardware manufacturers. Make sure the newly installed hardware is operating correctly. Check the Event log for error messages and resolve all errors prior to installing AppCluster.

Decide where you'd like to install AppCluster and select which shared volume will be used.

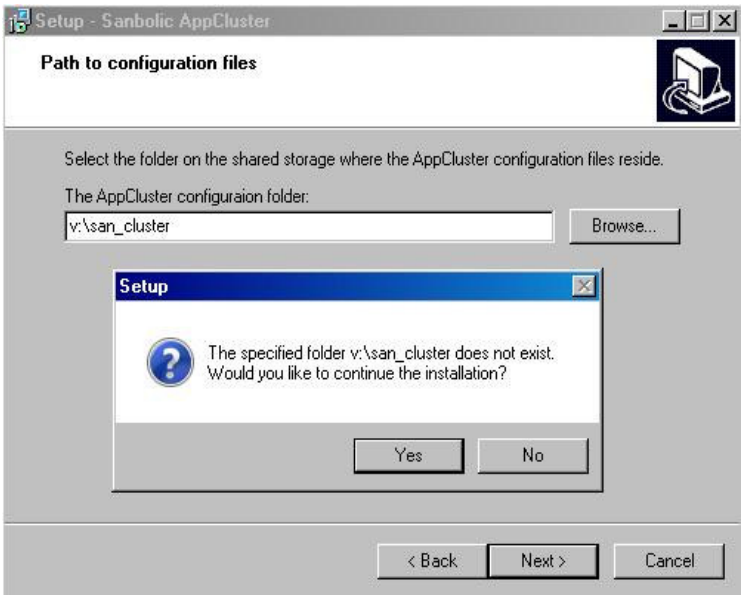
Log on to your server with administrator privileges. Run the setup program from your installation package and choose the destination folder where you want to install AppCluster.


Setup - Sanbolic AppCluster
Select Destination Location
Where should Sanbolic AppCluster be installed?
Setup will install Sanbolic AppCluster into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\Sanbolic\AppCluster
Browse...
At least 0.8 MB of free disk space is required.
< Back
Next >
Cancel

Select the user name and password under which the AppCluster service will operate (Domain admin rights required).

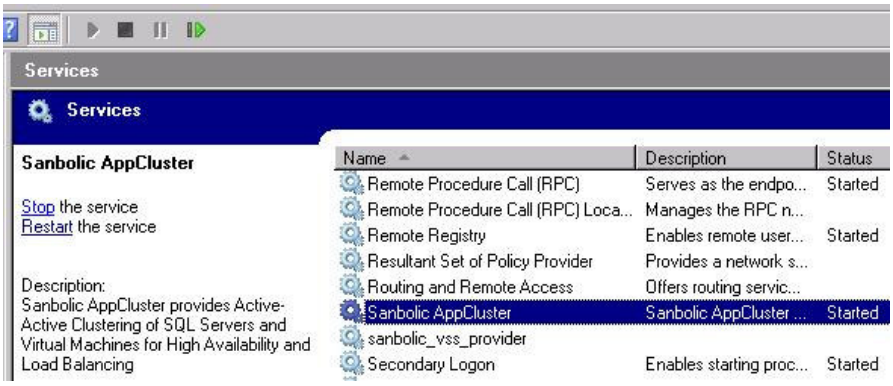

Setup - Sanbolic AppCluster
Select Service User Account
Enter Service User Account to be used by the Sanbolic AppCluster service
Service User Account Name must be in the form "myserver\username" (for a local computer account) or "mydomain\username" (for a domain account). This must be a valid existing account, member of this machine Administrators group.
Service account name:
User_name
Password:
< Back
Next >
Cancel

Choose the destination for your configuration files.



Note: *If a Melio shared volume is not available during the installation of AppCluster, a temporary folder can be selected to complete the installation. Upon initial launch of AppCluster, the user will be prompted to select the path to the folder on a Melio shared volume that will contain the AppCluster configuration files.*

The setup program will install and start the AppCluster service. Check the "Services" console after installation to ensure the AppCluster service is started.

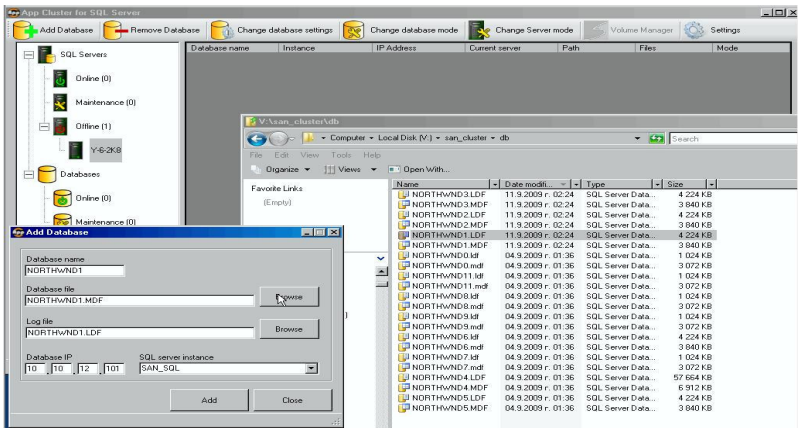


Configuring AppCluster

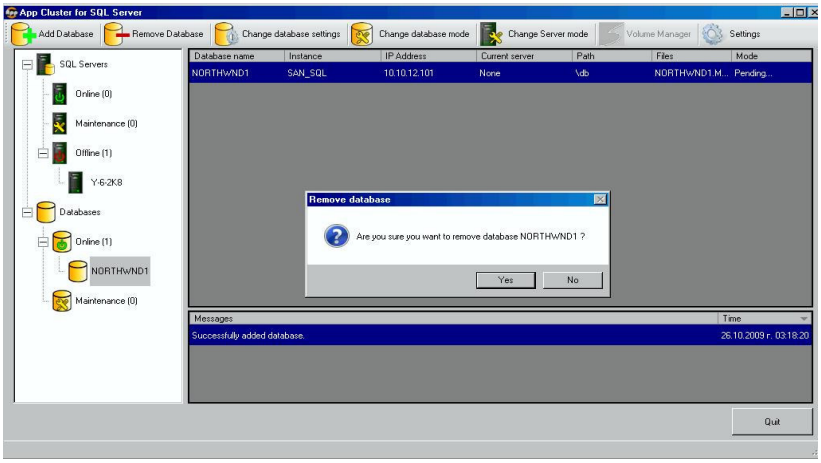
Open the **AppCluster user interface (UI)**: *Start > Programs > Sanbolic AppCluster > Sanbolic AppCluster*

In the AppCluster UI select "**Add Database**" and then input the information for your database, including DB name, DB data file, DB log file, IP address and SQL Instance. AppCluster scans for available SQL Instances, which can then be selected from a list.

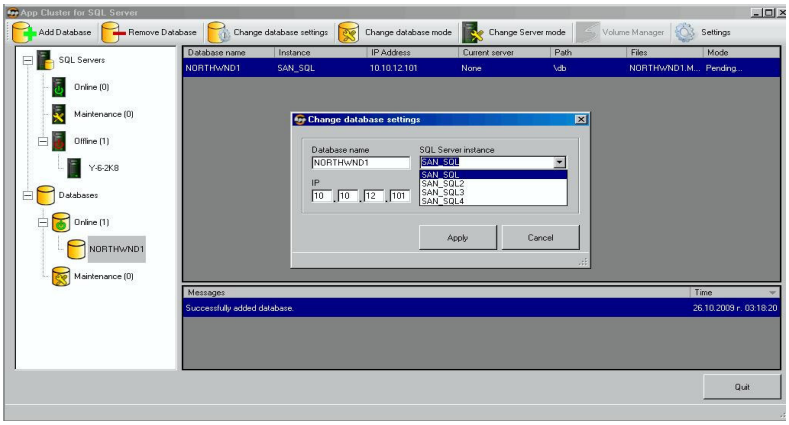
Note: *DB name, DB data file and DB log file can be entered manually or by using the Drag & Drop function.*



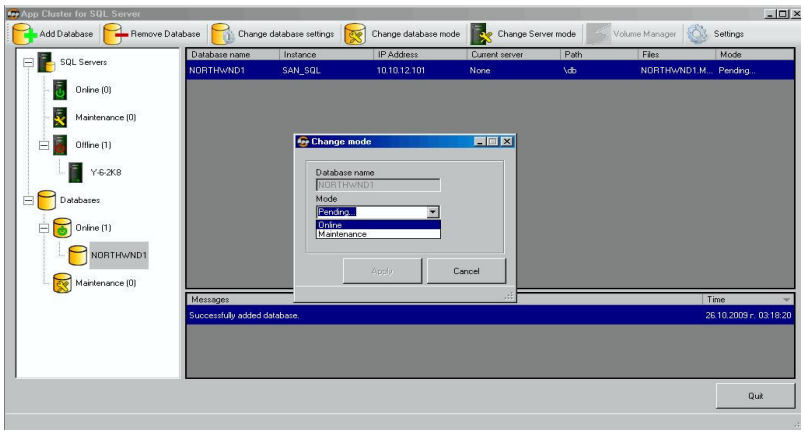
You can remove databases by clicking the "**Remove Database**" tab located in the toolbar at the top or by right-clicking on the database you want to remove in the status window and selecting "**Remove Database"**. (See screen on following page.)



Database settings can be changed at anytime by clicking the "**Change database settings**" tab or by right-clicking on the database you want to change in the status window and selecting "**Change database settings".**

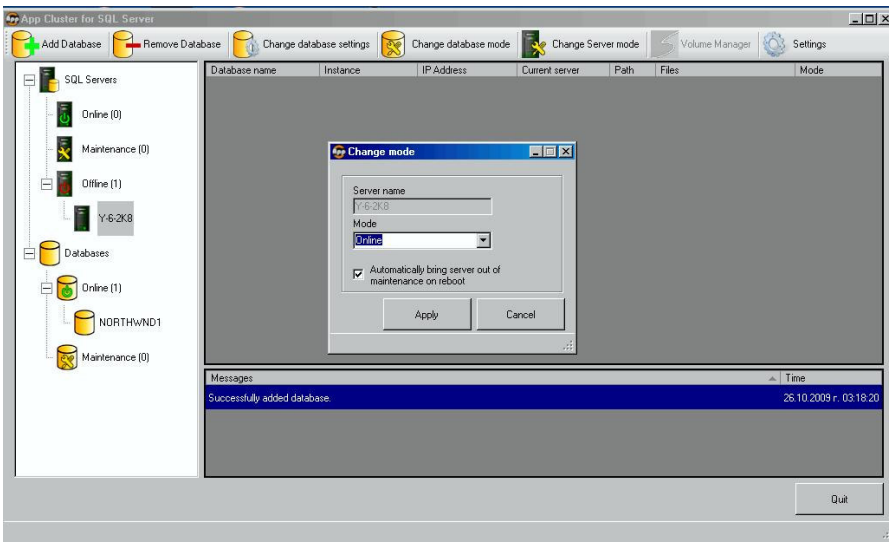


To change the status of a database, click the "**Change database mode**" tab or right-click on the database you want to change in the status window and select "**Change database mode."**

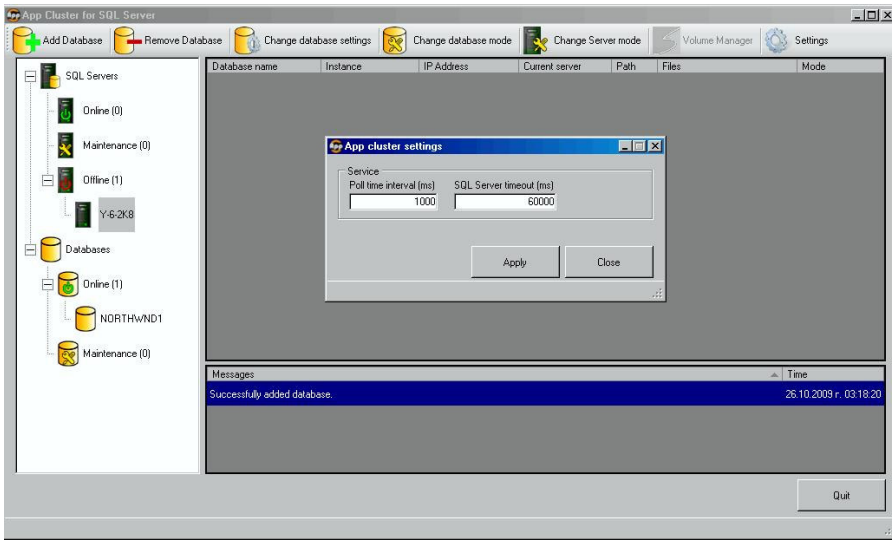


Click the "**Change Server mode**" tab to change the state of your server. This option is useful when you need to apply patches or reboot a server several times in succession.

Note: *When a server is offline, all databases are in a "**pending**" state.*



If network latency issues are encountered, click the "**Settings**" tab to adjust the timeout settings for the AppCluster service.



Troubleshooting

If a problem arises and troubleshooting concludes that the problem may be associated with the AppCluster application, please perform the following:

Verify that your storage hardware is working properly. Check the Event log for error messages. If there are error messages pertaining to your storage hardware, such as timeouts, controller or device errors, please fix the errors according to your storage manufacturer's guidelines. For AppCluster to work correctly, the shared storage provided by Melio FS must also be working correctly, which requires that all storage hardware function properly.

Check the Event log for messages generated by AppCluster. AppCluster reports errors and logs them to the Application log. Messages recorded in the log can offer guidance regarding the root cause for the errors (i.e., connectivity issues or disk problems).

Ensure there is stable network connectivity amongst all the AppCluster machines on the network. This is especially important on multi-homed systems (systems with more than one IP address). Make sure that AppCluster uses the appropriate IP addresses on the machines (search registry in HKLM for "sanbolic_app_cluster", key "server_ip"). Make sure that all machines on the network are running the same version of AppCluster and Melio FS.

How to request technical support

The address for technical support requests is support@sanbolic.com . When you submit a support request, please follow these guidelines.

1. Supply information on your hardware and software.
2. Supply version of AppCluster and Melio FS.
3. Describe the steps to reproduce the problem.
4. Supply event logs.
5. Supply the exact error message.
6. Specify how many times the problem occurred.
7. State the actual results.
8. Outline the expected results.

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